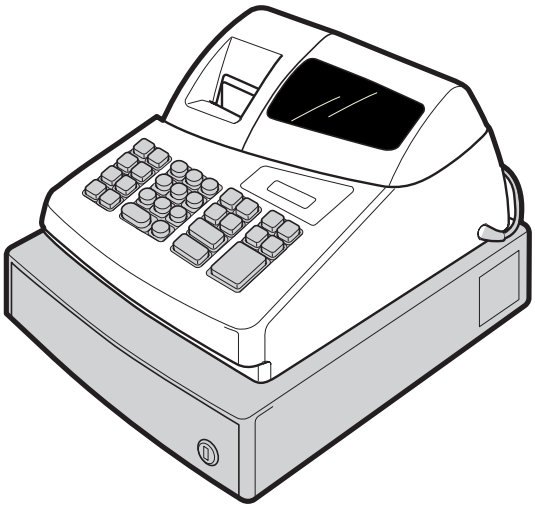
# SHARP SERVICE MANUAL

CODE : 00ZXEA101USME



# ELECTRONIC CASH REGISTER

## MODEL XE-A101

**SRV KEY : Not necessary**
**PRINTER : M-31**
**(U and A version)**

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PARTS GUIDE

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

**SHARP CORPORATION**

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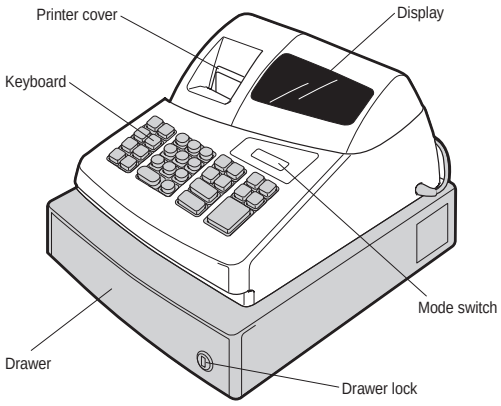
The contents are subject to change without notice.

# CHAPTER 1. SPECIFICATIONS

## 1. APPEARANCE

**Front view**



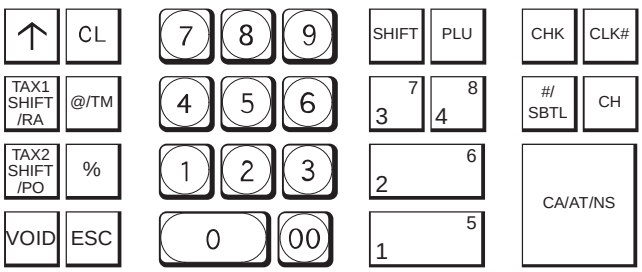

## 2. RATING

| | |
|---|---|
| Weight | Approx 5.0kg |
| External dimension (Including the drawer) | 330 (W) x 363 (D) x 253 (H) mm<br>13 (W) x 14.3 (D) x 9.96 (H) inches |
| Power source | AC 120V (±10%), 60Hz |
| Power consumption | Stand-by 4W<br>Operating 12.5W |
| Working temperature | 0~40°C (32 to 104°F) |

## 3. KEYBOARD

### 1) KEYBOARD LAYOUT

| | |
|---|---|
| Type | Normal keyboard |
| Key position | STD/MAX 30 |
| Key pitch | 19 (W) x 19 (H) mm |
| Key layout | Fixed type |



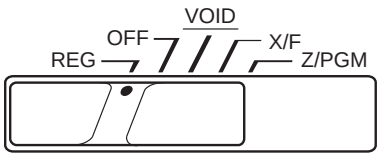

### 2) KEY LIST

| Keytop | Description |
|---|---|
| 0-9,00 | Numeric keys |
| CL | Clear key |
| @/TM | Multiplication & Time display key |
| ↑ | Paper feed key |
| Tax 1 Shift/RA | Tax 1 shift and Received on account key |
| Tax 2 Shift/PO | Tax 2 shift and Paid out key |
| % | Percent keys |
| ESC | Error escape key |
| VOID | Void key |
| CLK# | Clerk code Entry key |
| PLU | PLU code entry key |
| SHIFT | Department shift key |
| #/SBTL | Non-add code & Tax Included subtotal key |
| CHK | Check key |
| CH | Charge key |
| CA/AT/NS | Cash sale Amount tender and No Sale key |
| Dept1-8 | Department key |

## 4. MODE SWITCH

### 1) LAYOUT

- Slid type




## 5. DISPLAY

### 1) OPERATOR DISPLAY

Display device: LED numeric display

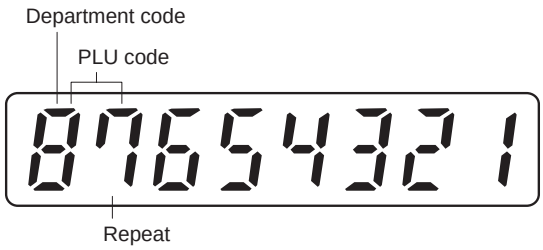
Number of line: 1 line

Number of positions: 8 positions numeric display

Color of display: Yellow / Green

Character size: Numeric 14 (H) x 8 (W) mm

(Layout)



### 2) DISPLAY CONTENTS

Departments/PLU Code:

The department code or PLU code entered appears on the left. For example, if the key for department 1 is pressed, "1" would appear in the extreme left position.

Repeat:

Indicates the number of times the same department key is pressed. If an entry is repeated more than ten times, only the first digit is displayed (12 displays as "2").

(E) Error:

This symbol appears, accompanied by a warning beep, when an error is made. If this occurs during a transaction because of an excessive digit entry, simply press CL and re-enter correctly.

(P) Program:

This symbol remains on the display when the cash register is being programmed in the Z/PGM mode.

(F) Finalization:

This symbol appears when a transaction is finalized by pressing CA/AT/NS , CH or CHK .

(o) Subtotal:

This symbol appears when #/SBTL is pressed and the cash register computes the subtotal, and also when the amount tendered is less than the total sale amount.

(C) Change:

This symbol appears whenever the change due amount is displayed.

(L) Low battery:

This symbol appears when the power of the installed batteries is below a certain level or you need to replace the batteries with new ones. (see the "Maintenance" section for explanation.)

(⌞) No battery:

This symbol appears when no batteries are installed. (see "Maintenance" and "Getting Started" sections for explanation.)

In addition, the following appear when appropriate:

- The minus sign (-) can appear in positions 2 to 8.
- The decimal point appears in positions 1 to 3.
- When entry of the secret code is necessary, "---"appears in positions 1 to 4.

## 6. PRINTER

### 1) PRINTER

- Model name: M-31
- No. of stations: 1
- Printing system: Print wheel selective type
- Printing capacity: max. 13 characters
- Character size: 1.6mm (W) x 2.8mm (H)
- Print pitch: Column distance 2.1mm (numeric to numeric), 2.6mm (numeric to symbol)
  Row distance 4.6mm
- Print speed: Approximate 1.4 lines/s (6 digits/line)
- Paper feed speed: Approximate 4.3 lines/s
- Reliability: MCBF 0.3 million lines

### 2) PAPER

- Paper roll dimension: 57.5 ± 0.5mm
  max. 80mm in diameter
- Paper quality: Bond paper (paper thickness: 0.06 to 0.085mm paper weight: 47 to 64g/m²)

### 3) INKING

- Ink supply system: Ink rill
- From: Roller
- Specification: Material - rubber
- Ribbon life: 0.7 million characters
- Print color: purple

### 4) LOGO STAMP (No)

### 5) CUTTER

- Manual cutter

### 6) PRINTING WHEEL LAYOUT

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | X |
| 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | Z |
| 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | RA |
| 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | PO |
| 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | VD |
| 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | % |
| 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | @ |
| 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | ST |
| 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | TX |
| 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | CA |
| 10 | | | | | | | | | | | | | |
| 11 | – | – | – | – | – | – | – | – | – | – | – | – | CH |
| 12 | • | • | • | • | • | • | • | • | • | • | • | • | CK |
| 13 | # | # | # | # | # | # | # | # | # | # | # | # | CG |

# 7. DRAWER

## [OUTLINE]

- Standard equipment: Yes (1)
- Max. number of drawers: 1
- The drawer consists of:
  (1) Drawer box (outer case) and drawer
  (2) Money case
  (3) Coin case
  (4) Lock (attached to the drawer)

## [SPECIFICATION]

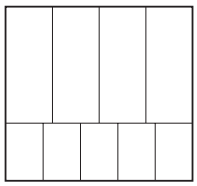
### 1) DRAWER BOX AND DRAWER

| | |
|---|---|
| Size | 330 (W) x 363 (D) x 98 (H) mm<br>13 (W) x 14.3 (D) x 3.9 (H) inches |
| Material | Plastic |
| Bell | – |
| Release lever | Standard equipment: situated at the bottom |
| Drawer open sensor | – |

### 2) MONEY CASE

| | |
|---|---|
| Separation from the drawer | Disallowed |
| Separation of the bill compartments from the coin compartments | Allowed |
| Bill separator | – |
| Number of compartments | 4B/5C |

Layout:



4B/5C

### 3) LOCK (LOCK KEY : LKGIM7331BHZZ)

- Location of the lock: Front
- Method of locking and unlocking:
  To lock, insert the drawer lock key into the lock and turn it 90 degrees counter clockwise.
  To unlock, insert the drawer lock key and turn it 90 degrees clockwise.
- Key No: SK1-1

# 8. BATTERY

### 1) MEMORY BACK UP BATTERY

For memory back up, the dry battery ULM-3 (3 pieces) are needed.

1. Memory holding time:
   Approx. 1 year after New dry batteries are installed.
2. Battery exchange method:
   When the low battery symbol "L" lights up, replace the batteries (3 AA) replaced by the following method;
   1) Power on the ECR.
   2) Mode switch turn to "REG" mode.
   3) Remove the OLD dry batteries (3 pieces).
   4) Insert the NEW dry batteries (3 pieces).
   5) Confirm the low battery symbol "L" is off.

### 2) LOW BATTERY

Low battery indication will appear on the left side of display when the battery voltage is low.

CASE 1: When sitting idle or after completion of transaction.

The machine can indicate the low battery condition (Always)

CASE 2: Low battery indication will not appear during key operations, but will appear after power up of the cash register.

**[Display sample]**

" 0.00" : Battery is OK.
"L 0.00" : Low battery (You have to change the batteries.)

After finalization
"F 12.34" : Battery is OK.
"L 12.34" : Low battery ("L" indicate instead of "F".)

### 3) NO BATTERY

If the user forgets to replace the battery and the battery voltage falls below a certain level, or if a power failure occurs with no batteries installed, the memory contents cannot be retained. The CPU judges it as no battery and performs the master reset. In this case, all the settings and registrations are cleared. If, however, the power is continuously supplied to the AC cord, the memory contents are retained.

Low battery : Batteries are installed, but the voltage is low.
Memory back up can be done.

No battery : Batteries are not installed or the voltage is extremely low.
The master reset is executed when a power failure occurs, when the batteries are not properly charged.

Low battery & No battery indication will appear at the most left position of display when the battery voltage is low.

CASE 1: When any numeric entry & item entry is not done or just after finalization.

The machine can indicate the battery condition. (Always)

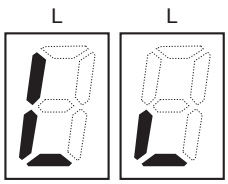
CASE 2: When numeric entry or item entry is done.

Battery condition is not appeared.
Exceptionally, at the power is restored after power failure, the low battery & No battery indication will appear on the display only when the battery voltage is low.
And the indication will disappear after any key entry.

**[Display sample]**

" 0.00" : Battery is OK.
"L 0.00" : Low battery
"⌞ 0.00" : No battery
After finalization

"F 12.34" : Battery is OK.
"L 12.34" : Low battery ("L" indicate instead of "F".)
"⌞ 12.34" : No battery ("L" indicate instead of "F".)



# CHAPTER 2. OPTIONS

## 1. OPTIONS (No)

## 2. SERVICE OPTIONS (No)

## 3. SUPPLIES

| NO | NAME | PARTS CODE | PRICE RANK | DESCRIPTION |
|---|---|---|---|---|
| 1 | ROLL PAPER | DPAPR1025CSZZ | AS | 5 ROLLS/PACK |
| 2 | INK ROLLER | NROLR1022CC05 | AF | |

## 4 SPECIAL SERVICE TOOLS (No)

# CHAPTER 3. MASTER RESET

Master reset: Clears all the memory and initializes each preset parameter.

The master reset should be performed by using the following procedure.

1. Turn off the power (Power OFF). (See Note 1.)
2. Let the ECR be without the memory back up battery.
3. Turn the mode switch to the others of Power-off position.
4. Turn on the power (Power ON). (See Note 2.)

When the master rest is completed, the buzzer sounds intermittently three times.

5. Attach the memory back up battery to the ECR.

The master reset can also be accomplished in the following case. (See Note 3.)

Note 1) Power OFF: Means disconnecting the AC power supply to the machine.
(Specifically, unplugging the machine.)

Note 2) Power ON: Means connecting the AC power to the machine.
(Specifically, plugging in the machine.)

Note 3) In case a power failure occurs when the machine has no battery installed, the master reset operation is automatically performed after the power has been restored.

# CHAPTER 4. HARDWARE DESCRIPTION

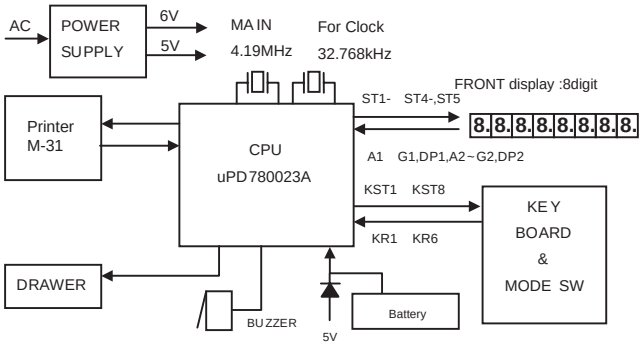
## 1. OUTLINE

- CPU: uPD780023A (ROM 24KB, RAM 1024B)
- KEY BOARD: 30key including PF key
- MODE SW: 5position slide SW

DISPLAY: 7seg.+DP x 8digit LED (YELLOW GREEN) FRONT only

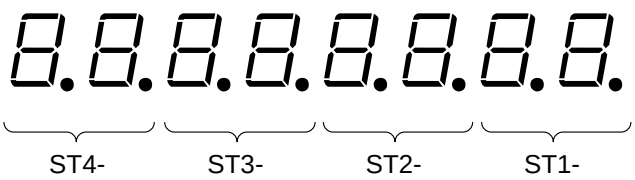
- DRAWER: 1ch, no open sensor
- BUZZER: 1beep, piezo buzzer
- PRINTER: M-31(no EURO SYMBOL)

## 2. BLOCK DIAGRAM

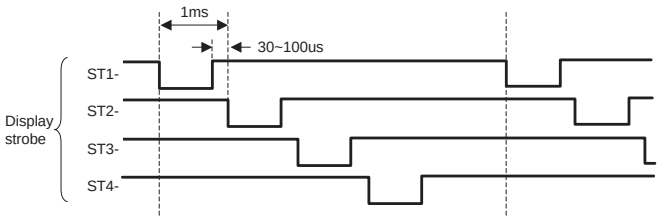



## 3. DISCRIPTION

### 1) DISPLAY



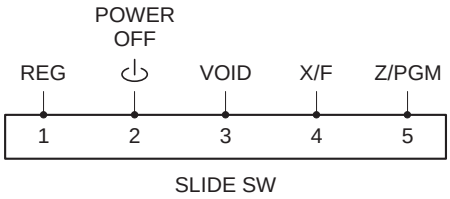

(Output Timing of STROBE signal)




### 2) KEYBOARD and MODE SW

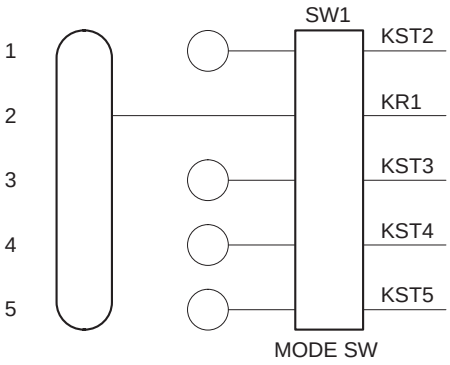
MODE SW, KEY MATRIX is follows.

∗ Note: Although the XE-A101 has 30 keys, the keyboard circuit is actually 32 keys (+) the PF key.

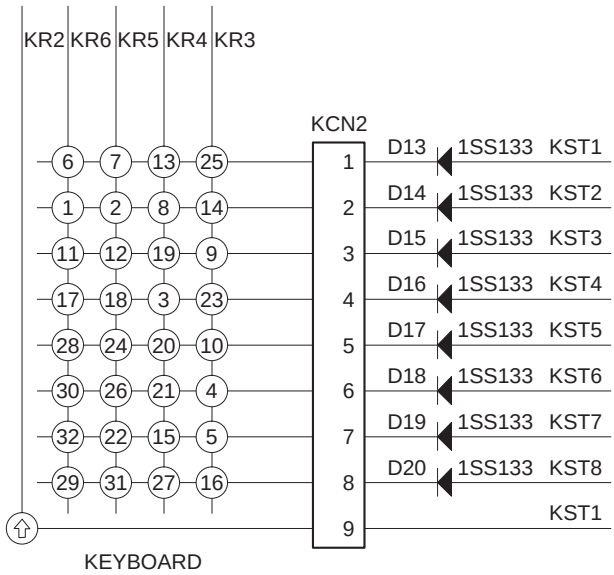



SLIDE SW

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| ↑ | 22 | 26 | 1 | 2 | 3 | 4 | 5 | 6 |
| 31 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | | 21 | | |
| 24 | 25 | | 27 | 28 | | 30 | | 32 |




MODE SW




KEYBOARD

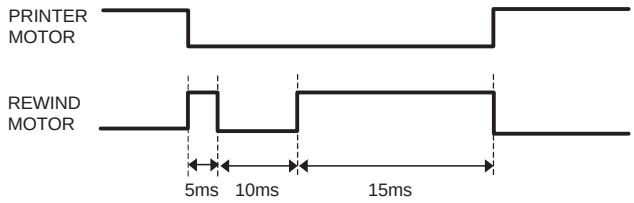
### 3) BUZZER

The BUZZER is driven by the P75/BUZ signal of the CPU.

Frequency : 4.095kHz

### 4) REWIND MOTOR

When the rewind motor is driven by the signal of the CPU.




### 5) DRAWER

DRAWER OPEN signal :Output high signal between 50ms

### 6) DETECTING "LOW VOLTAGE"

- Values obtained by AD conversion and averaging

  Register value: 138 (≒2.7V) or less → No voltage
  139 - 154 (≒2.7V - 3.0V) → Low voltage
  more than 154 → OK

### 7) DESTINATION DETECTION port

| | U and A version |
|---|---|
| P66 | L |

## 4. CPU PORT TABLE

| No. | PIN Name | Signal Name | Description | Output/Input | Initial state | When STBY |
|---|---|---|---|---|---|---|
| 1 | **P50**/A8 | RWND | REWIND MOTOR | O | L | O/L |
| 2 | **P51**/A9 | DR | To DRAWER | O | L | O/L |
| 3 | **P52**/A10 | SA2 | DISPLAY SEGMENT | O | L | O/L |
| 4 | **P53**/A11 | SB2 | DISPLAY SEGMENT | O | L | O/L |
| 5 | **P54**/A12 | SC2 | DISPLAY SEGMENT | O | L | O/L |
| 6 | **P55**/A13 | SD2 | DISPLAY SEGMENT | O | L | O/L |
| 7 | **P56**/A14 | SE2 | DISPLAY SEGMENT | O | L | O/L |
| 8 | **P57**/A15 | SF2 | DISPLAY SEGMENT | O | L | O/L |
| 9 | **Vss0** | GND | | | | |
| 10 | **Vdd0** | VDD | | | | |
| 11 | **P30** | ST1- | DISPLAY STROBE N-Ch O.D. | O | H | I |
| 12 | **P31** | ST2- | DISPLAY STROBE N-Ch O.D. | O | H | I |
| 13 | **P32** | ST3- | DISPLAY STROBE N-Ch O.D. | O | H | I |
| 14 | **P33** | ST4- | DISPLAY STROBE N-Ch O.D. | O | H | I |
| 15 | **P34**/SI31 | ST5 | DISPLAY STROBE (H ACTIVE) | O | L | O/L |
| 16 | **P35**/SO31 | NU | (GND via 56k) | I | | I |
| 17 | **P36**/SCK31- | NU | (GND via 56k) | I | | I |
| 18 | **P20**/SI30 | SA1 | DISPLAY SEGMENT | O | L | O/L |
| 19 | **P21**/SO30 | SB1 | DISPLAY SEGMENT | O | L | O/L |
| 20 | **P22**/SCK30- | SC1 | DISPLAY SEGMENT | O | L | O/L |
| 21 | **P23**/RXD0 | SD1 | DISPLAY SEGMENT | O | L | O/L |
| 22 | **P24**/TXD0 | SE1 | DISPLAY SEGMENT | O | L | O/L |
| 23 | **P25**/ASCK0 | SF1 | DISPLAY SEGMENT | O | L | O/L |
| 24 | **Vdd1** | VDD | | | | |
| 25 | **Avss** | GND | | | | |
| 26 | P17/**ANI7** | VBAT | BATTERY voltage | I | | I |
| 27 | **P16**/ANI6 | NU | RESERVE FOR KEY RETURN | I | | I |
| 28 | **P15**/ANI5 | KR6 | KEY RETURN | I | | I |
| 29 | **P14**/ANI4 | KR5 | KEY RETURN | I | | I |
| 30 | **P13**/ANI3 | KR4 | KEY RETURN | I | | I |
| 31 | **P12**/ANI2 | KR3 | KEY RETURN | I | | I |
| 32 | **P11**/ANI1 | KR2 | KEY RETURN | I | | I |
| 33 | **P10**/ANI0 | KR1 | KEY RETURN | I | | I |
| 34 | **Avref** | VCC | | | | |
| 35 | **Avdd** | VDD | | | | |
| 36 | **RESET-** | RESET- | | | | |
| 37 | **XT2** | XT2 | 32.768Khz Xtal | | | |
| 38 | **XT1** | XT1 | 32.768Khz Xtal | | | |
| 39 | **IC/VPP** | GND | | | | |
| 40 | **X2** | X2 | SYSTEM CLOCK | | | |
| 41 | **X1** | X1 | SYSTEM CLOCK | | | |
| 42 | **Vss1** | GND | | | | |
| 43 | P00/**INTP0** | /POF | POWER OFF | I | | I |
| 44 | P01/**INTP1** | T | From PRINTER | I | | I |
| 45 | P02/**INTP2** | t | From PRINTER | I | | I |
| 46 | **P03**/INTP3/ADTRG | R | From PRINTER | I | | I |
| 47 | **P70**/TI00/TO0 | SG1 | DISPLAY SEGMENT | O | L | O/L |
| 48 | **P71**/TI01 | SDP1 | DISPLAY SEGMENT | O | L | O/L |
| 49 | **P72**/TI50/TO50 | SG2 | DISPLAY SEGMENT | O | L | O/L |
| 50 | **P73**/TI51/TO51 | SDP2 | DISPLAY SEGMENT | O | L | O/L |
| 51 | **P74**/PCL | NU | | O | L | O/L |
| 52 | P75/**BUZ** | BUZ | BUZZER | O | L | O/L |
| 53 | **P64**/RD- | MTR | To PRINTER | O | L | O/L |
| 54 | **P65**/WR- | TRG | To PRINTER | O | L | O/L |
| 55 | **P66**/WAIT- | MSL1 | MODEL SELECT1 | I | | I |
| 56 | **P67**/ASTB | MSL2 | MODEL SELECT2 | I | | I |
| 57 | **P40**/AD0 | KST1 | KEY STROBE | O | L | O/L |
| 58 | **P41**/AD1 | KST2 | KEY STROBE | O | L | O/L |
| 59 | **P42**/AD2 | KST3 | KEY STROBE | O | L | O/L |
| 60 | **P43**/AD3 | KST4 | KEY STROBE | O | L | O/L |
| 61 | **P44**/AD4 | KST5 | KEY STROBE | O | L | O/L |
| 62 | **P45**/AD5 | KST6 | KEY STROBE | O | L | O/L |
| 63 | **P46**/AD6 | KST7 | KEY STROBE | O | L | O/L |
| 64 | **P47**/AD7 | KST8 | KEY STROBE | O | L | O/L |

# CHAPTER 5.TEST FUNCTION

1) To execute the diag test, set the mode switch to Z/PGM. Enter the desired JOB code, and press the PO (paid out) key.
2) The test message is printed by the printer.
3) Test contents and key operations.

| NO. | Test contents | Key operations |
|---|---|---|
| 1 | Mode switch test | 1 → PO |
| 2 | Key test | 02 → PO |
| 3 | Display buzzer test | 3 → PO |
| 4 | Drawer test | 4 → PO |
| 5 | Printer test | 5 → PO |
| 6 | CPU version NO. print | 6 → PO |
| 7 | Battery level test | 7 → PO |
| 8 | Time display test | 8 → PO |
| 9 | Destination display | 9 → PO |

## 1. MODE SWITCH TEST

### 1) KEY OPERATION

1 → PO

### 2) TEST PROCEDURE

Change over the mode switch as follows. If the mode switch data in the proper sequence is not read with the above operation, an error is printed.

To cancel this test mode, set the mode switch to any a position other than Z/PGM to Z/PGM. In this case, the completion print is performed.

During the test , the display indicates hard codes which correspond to the switch positions.

### 3) MODE SWITCH OPERATION

Mode: Z/PGM → X/FLASH → VOID → OFF → REG

Display: (04) (03) (02) (01)

| | | |
|---|---|---|
| Completion print | | 01 |
| Error print | – – – | 01 |

## 2. KEY TEST

### 1) KEY OPERATION

02 → PO

### 2) TEST PROCEDURE

Perform the keyboard check with the sum check data of the key code.

Enter the sum check data of each model in the four digits preceding the diag number 02, and compare the data with the key position code which is added until the CA/AT/NS key is pressed.

If the data coincides with the code, the completion print is performed. If not, the error print is performed.

| | | | |
|---|---|---|---|
| Completion print | | 02 | |
| Error print | – – – | 02 | |
| | | XXXX | Sum data |

## 3. DISPLAY BUZZER TEST

### 1) KEY OPERATION

3 → PO

### 2) TEST PROCEDURE

Check the continuous buzzer sound and the display state.

Display state:

8. 7. 6. 5. 4. 3. 2. 1.

The decimal point will shift from the lower digit to the upper, step by step (500mSEC). To cancel the test mode, press any key, and the buzzer will stop and the completion print is performed.

| | |
|---|---|
| Completion print | 03 |

## 4. DRAWER TEST

### 1) KEY OPERATION

4 → PO

### 2) TEST PROCEDURE

The drawer opens with the above key operation. Check that the drawer is open. Press any key to terminate the test.

| | |
|---|---|
| Completion print | 04 |

# 5. PRINTER TEST

## 1) KEY OPERATION

5 → PO

## 2) TEST PROCEDURE

With the above key operation , the print test pattern is repeatedly printed.

Pressing any key will terminate the test after the completion of one cycle print. (The receipt is issued at the end.)

```
                    0 0 0 X
                    1 1 1 Z
                    2 2 2 RA
                    3 3 3 PO
                    4 4 4 VD
                    5 5 5 %
                    6 6 6 @
                    7 7 7 ST
                    8 8 8 TX
                    9 9 9 CA

                    – – – CH
                    . . . CK
                    # # # CG
# ・ –   9 8 7 6 5 4 3 2 X
0 1 2 3 4 5 6 7 8 9   – CG
```

# 6. CPU VERSION NO. PRINT

## 1) KEY OPERATION

6 → PO

## 2) DESCRIPTION

The CPU version No. are printed with above key operation.
(Print example)

0101 CPU version NO.

06

This test is terminated when printing is completed.

# 7. BATTERY VOLTAGE SENSOR TEST

## 1) KEY OPERATION

7 → PO

## 2) TEST PROCEDURE

Displays A/D conversion port read value.

0155 or greater: Normal

0154 or smaller: Low battery display

0138 or smaller: No battery display and MSR is done when power on.

To terminate the test, press any key.

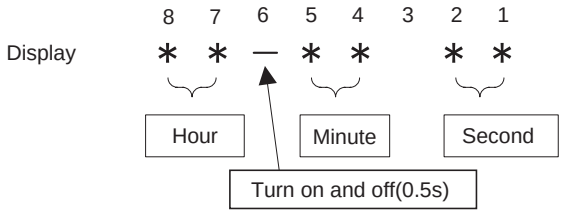
Completion print 07

# 8. TIME DISPLAY TEST

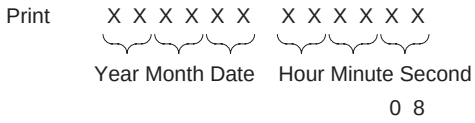
## 1) KEY OPERATION

8 → PO

## 2) TEST PROCEDURE




To terminate the test and print the date and time, press any key.




# 9. DESTINATION DISPLAY

## 1) KEY OPERATION

9 → PO

## 2) TEST PROCEDURE

Display the destination code as follows.

| | U and A version | V version | Japan |
|---|---|---|---|
| Display | 0 | 1 | 2 |

Display X (X:0)

To terminate the test, press any key.

Completion print 09

# CHAPTER 6. SERVICE PRECAUTION

## 1. PRINTER

Since there are no service parts for this model printer, only the printer unit is supplied. Therefore, the printer component parts are not supplied and no service document is issued.

For troubleshooting of the printer, refer to the table below:

* Printer life: 300 thousand lines (XE-A101: M-31)
  Ink roll life: 1 million characters

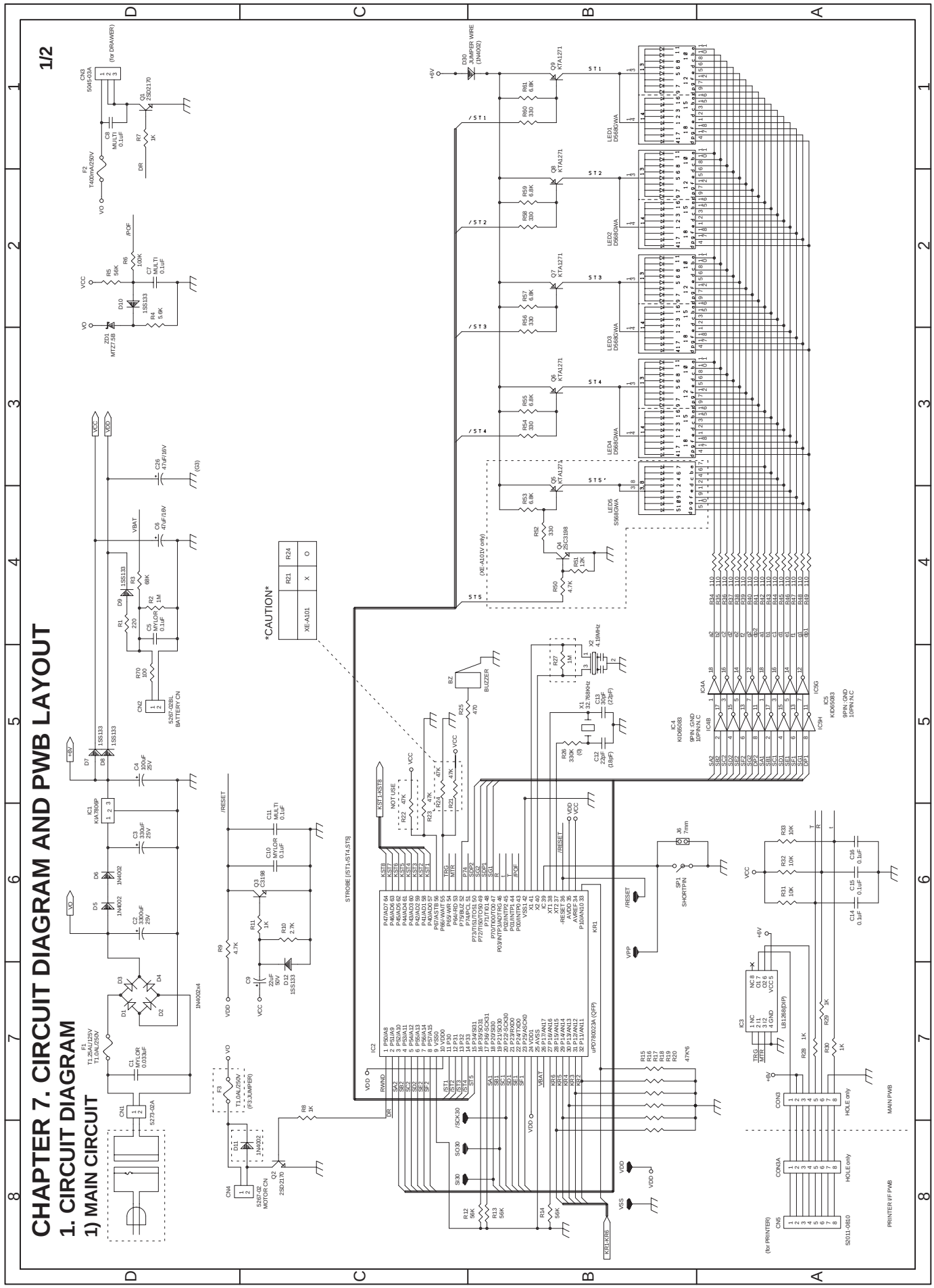
| Phenomena | Check point/possible cause | Repair |
|---|---|---|
| • The printer motor is locked and the buzzer sounds intermittently. | • Check if the printer cable is disconnected. | • Check and repair the printer cable. |
| • The printer does not work properly | • Check if the printer life is reached. | • Replace the printer. |
| | • Check if any foreign material is attached to the printing type wheel or the gear section. | • Remove the foreign material. (After removing the foreign material, set the mode switch to "REG" and press "CL" key.) |
| • Defective print (Lack on the upper/ lower or left/right side) | • Check if the printing type is worn down. | • Replace the printer. |
| | • Check if any foreign material is attached to the printing type wheel. | • Remove the foreign material. (After removing the foreign material, set the mode switch to "REG" and press "CL" key.) |
| • Thin print | • Check if the ink roll life is reached. | • Replace the ink roll. |
| | • Check if the ink roll is properly installed. | • Install the ink roll properly. |
| | • Check if the printing type wheel is worn down. | • Replace the printer. |
| • Uneven pitch of print paper feed | • Check if the roll paper size is proper. | • Use roll paper as specified below;<br>Paper width: 57.5±0.5mm<br>Outside diameter: φ80mm or less<br>Inside diameter of paper tube: φ12mm or less<br>Paper thickness: 0.06~0.085mm |
| | • Check if a load is applied to the roll paper during paper feeding. This may result from a foreign materials attached to the roll paper. | • Remove any foreign material. |

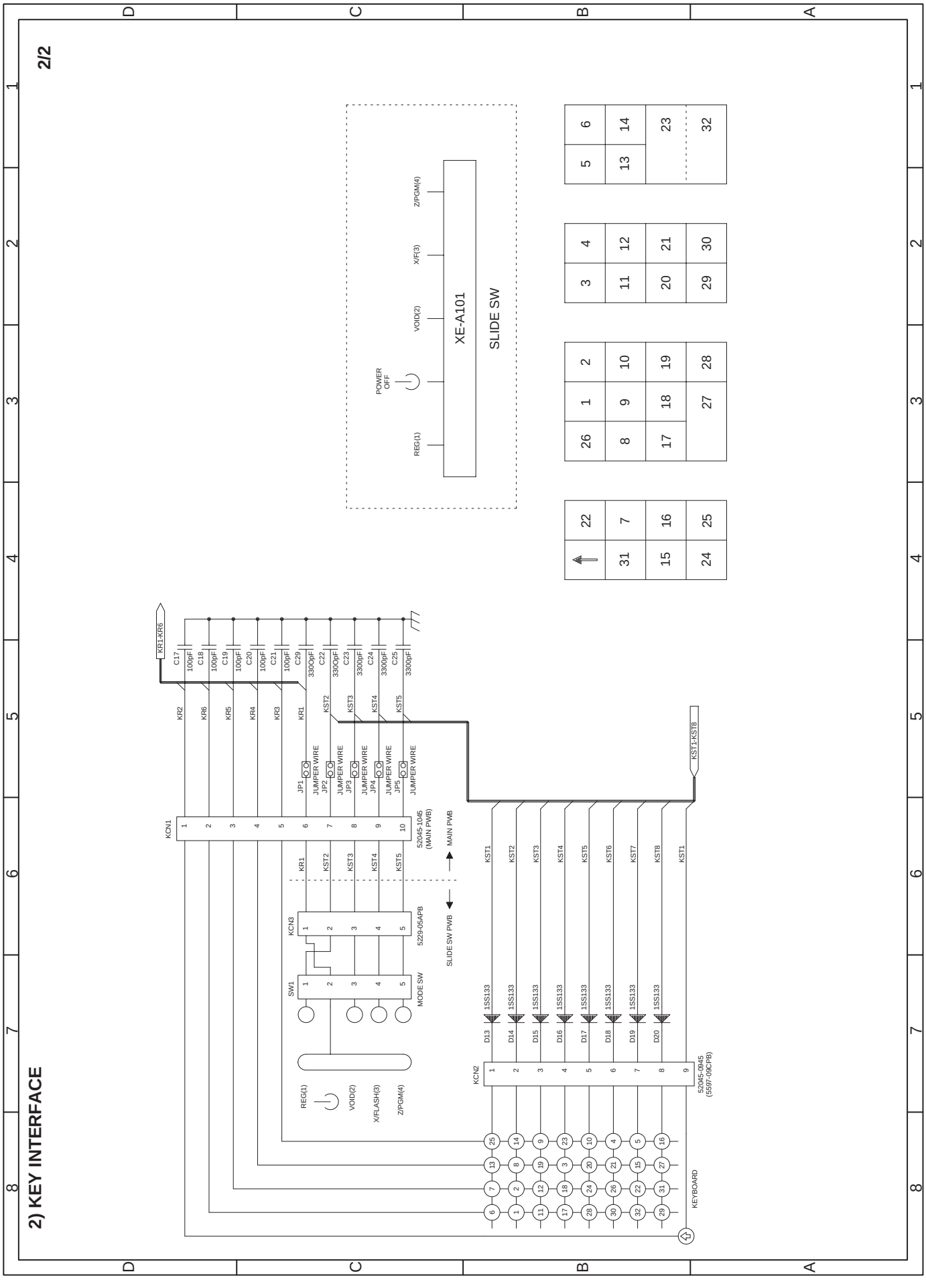
# CHAPTER 7. CIRCUIT DIAGRAM AND PWB LAYOUT

## 1. CIRCUIT DIAGRAM

### 1) MAIN CIRCUIT

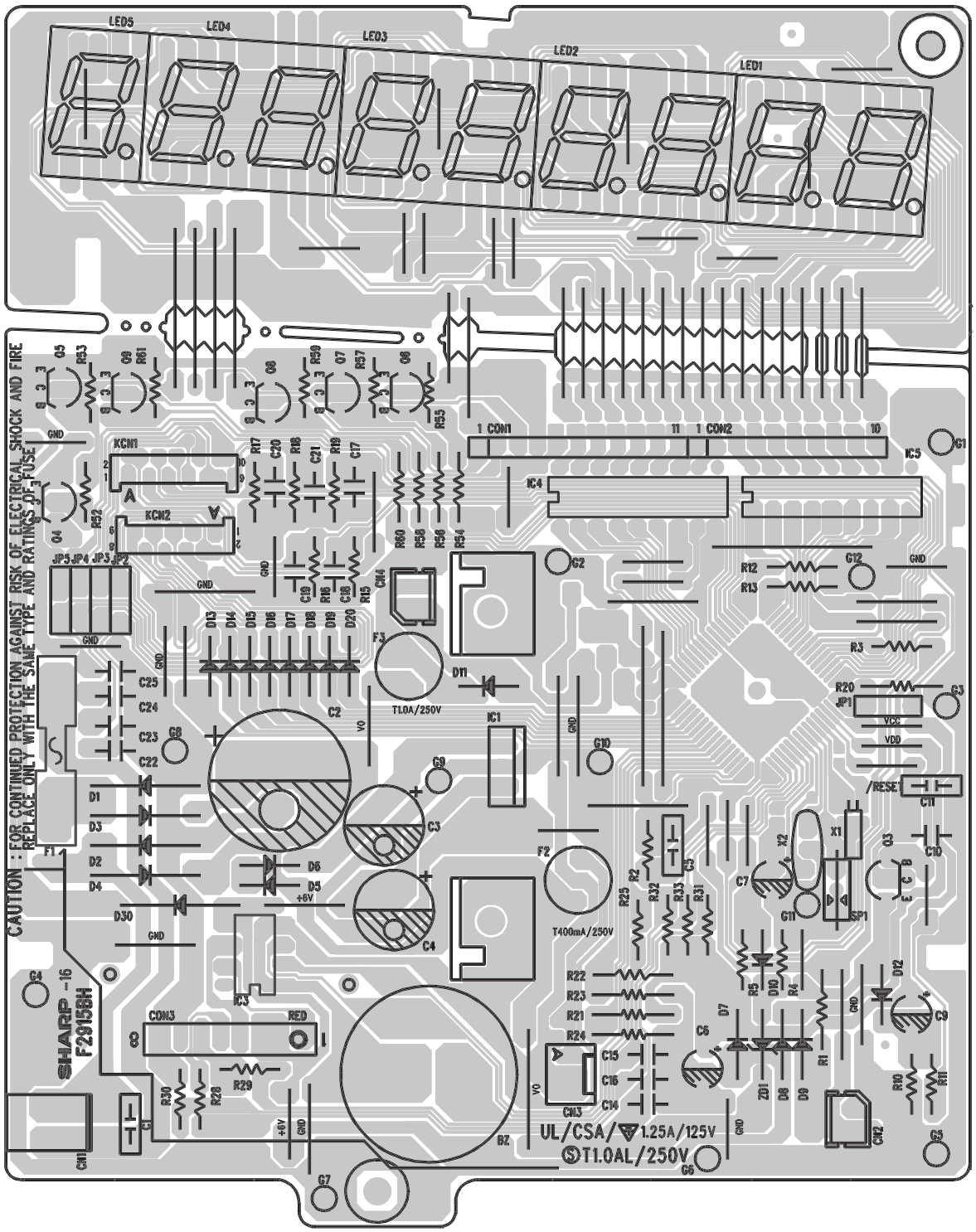
1/2

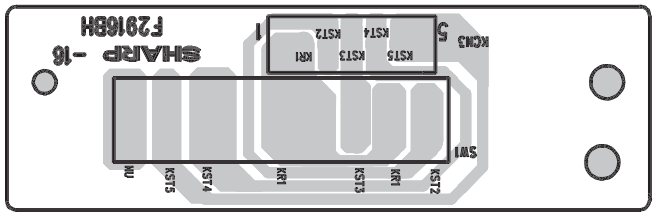


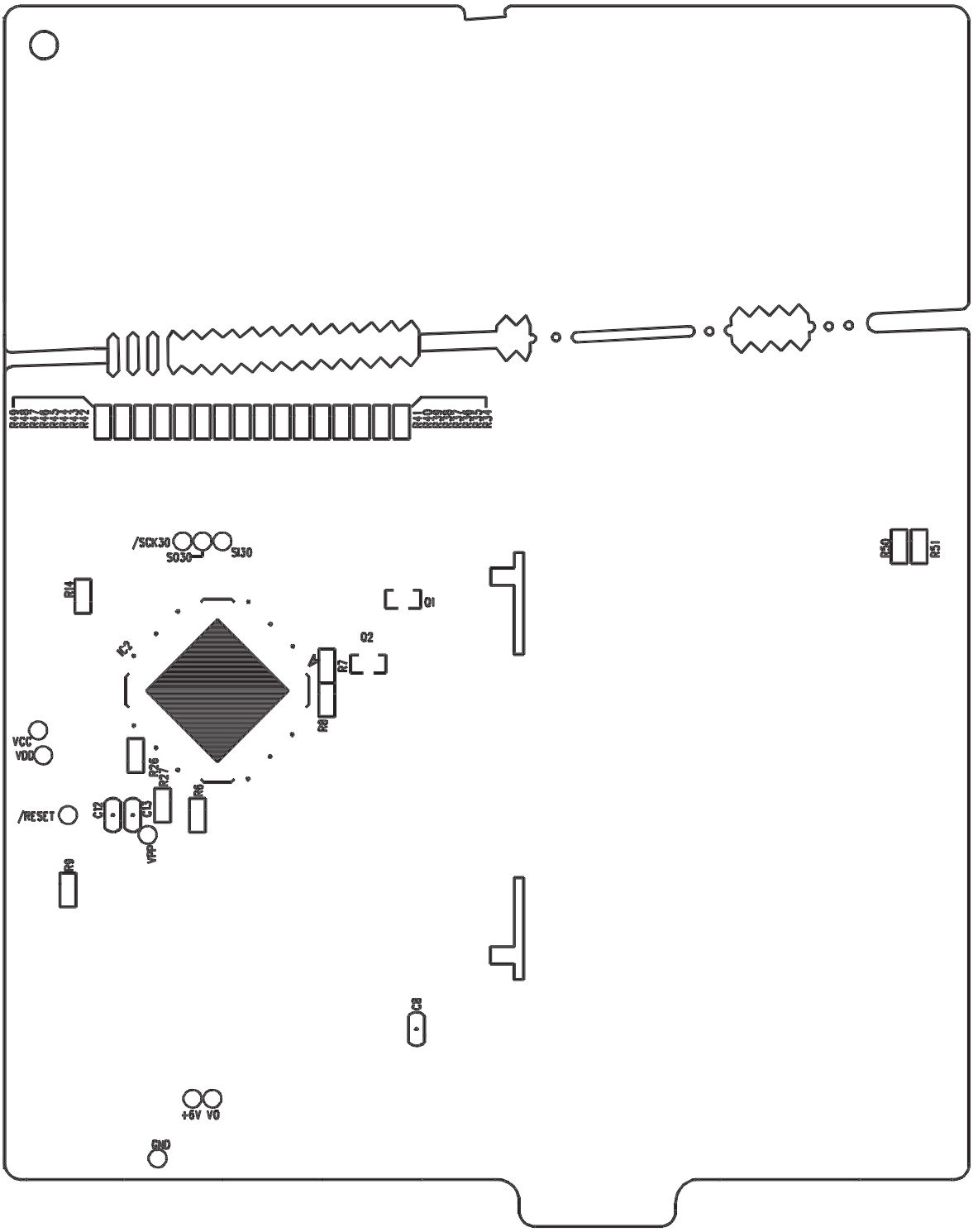

2/2
2) KEY INTERFACE
SLIDE SW
XE-A101
POWER OFF
REG(1)
VOID(2)
X/F(3)
Z/PGM(4)
KR1-KR6
KST1-KST8
KCN1
KCN2
KCN3
SW1
MODE SW
MAIN PWB
SLIDE SW PWB
52045-1045 (MAIN PWB)
5229-05APB
52045-0945 (5597-08CPB)
KEYBOARD
JUMPER WIRE
1SS133

## 2. PWB LAYOUT

### 1) A side




/SCK30
SO30
SI30
R14
Q1
Q2
R7
R8
VCC
VDD
R26
R27
R6
/RESET
C12
C13
VPP
R9
C8
+6V
VO
GND
R50
R51

1) B side

SHARP

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**SHARP CORPORATION**
**Digital Document Systems Group**
**Quality & Reliability Control Center**
**Yamatokoriyama, Nara 639-1186, Japan**

2001 August Printed in Japan (t)